

What is claimed is:

1. An electronic money information transaction system comprising:  
an IC card storing electronic money information;  
a terminal unit for writing electronic money information  
5 into and reading electronic money information from the IC card;  
an external connection terminal for connecting the terminal unit to a communication line; and  
10 an external information processor for processing data provided by the terminal unit;  
said terminal unit comprising a data modulating-demodulating means having a first connection terminal connected to the communication line, a system apparatus connected to a second connection terminal by the  
15 communication line, a data processing means for processing electronic money information read from or to be written into the IC card, and a switching means for selectively connecting the second connection terminal of the modulating-demodulating means to the data processing means or the external information processing means;  
20 wherein the terminal unit is provided with a control means for controlling at least the switching means, the control means controls the switching means to select the

25 data processing means and to connect the data processing means through the data modulating-demodulating means to the communication line when a electronic money information transaction instruction is given thereto to enable the system apparatus and the IC card to exchange electronic money information through the communication line.

5 2. The electronic money information transaction system according to claim 1, wherein at least an electronic money information transaction start instruction to be given to the control means to instruct the control means to start electronic money information transactions is provided by the external information processor.

10 3. The electronic money information transaction system according to claim 1, wherein the terminal unit further comprises an input means for entering inputs to the control means, and the electronic money information transaction start instruction is provided by the input means.

4. The electronic money information transaction system according to claim 1, wherein the terminal unit further comprises a power circuit provided with an electric energy storage means.

5. The electronic money information transaction system according to claim 4, wherein the electric energy storage means is charged through the communication line.

6. The electronic money information transaction system according to claim 4 further comprising a power receiving means for receiving power from an external power source,

5 wherein the electric power storage means is charged through the power receiving means.

7. The electronic money information transaction system according to claim 4 further comprising a power receiving means for receiving power from an external power source, and a selecting means for selecting the power receiving means or the power circuit;

5 wherein the selecting means selects the power receiving means to apply an output voltage of the power receiving means as supply voltage to the terminal unit in an ordinary state, and selects the power circuit to apply the output voltage of the power circuit as supply voltage to the terminal unit when the output voltage of the power receiving means drops below a predetermined value.

10 8. The electronic money information transaction system according to claim 1 further comprising a light emitting means capable of generating light instruction signals and combined with the external information processor, and a light receiving means capable of receiving the light instruction signals and combined with the terminal unit;

wherein, upon receiving the light instruction signal,  
the external information processor provides at least an  
electronic money information transaction start instruction  
to be given to the control means to instruct the control  
means to start electronic money information transactions.

9. The electronic money information transaction  
system according to claim 8 further comprising an input  
means for entering instructions to the control means,  
combined with the terminal unit, at least an electronic  
money information transaction start requesting means  
combined with the light receiving means;

wherein the input means gives an electronic money  
information transaction start instruction to the control  
means, and electronic money information transactions are  
carried out according to the electronic money information  
transaction start requesting means.

10. The electronic money information transaction  
system according to claim 1, wherein the external  
information processor comprises a display capable of  
displaying image information.

11. A terminal device for use in an electronic money  
information transaction system, comprising:

an IC card storing electronic money information;  
a terminal unit for writing electronic money

5 information into and reading electronic money information

from the IC card;

an external connection terminal for connecting the terminal unit to a communication line connected to an external system apparatus;

10 a data modulating-demodulating means having a first connection terminal connected to the communication line;

a data processing means for processing electronic money information read from or to be written into the IC card; and

15 a switching means for selectively connecting a second connection terminal of the modulating-demodulating means to the data processing means or an external information processing means for processing data provided by the terminal unit;

20 wherein the terminal unit is provided with a control means for controlling at least the switching means, the control means controls the switching means to select the data processing means and connects the data processing means through the data modulating-demodulating means to the communication line when an instruction to carry out 25 electronic money information transactions is given to enable the system apparatus and the IC card to exchange electronic money information through the communication line.

12. An electronic money information transacting method to be carried by an electronic money information

transaction system comprising:

an IC card storing electronic money information;

5 a terminal unit for writing electronic money  
information into and reading electronic money information  
from the IC card;

10 an external connection terminal for connecting the  
terminal unit to a communication line connected to an  
external system apparatus;

a data modulating-demodulating means having a first  
connection terminal connected to the communication line;

15 a data processing means for processing electronic  
money information read from or to be written into the IC  
card; and

20 a switching means for selectively connecting a  
second connection terminal of the modulating-demodulating  
means to the data processing means or an external  
information processing means for processing data provided  
by the terminal unit;

25 wherein the terminal unit is provided with a control  
means for controlling at least the switching means, and the  
electronic money information transacting method has the  
step of making a decision according to at least an  
instruction provided by the control means as to whether  
electronic information applied to the second terminal of  
the data modulating-demodulating means is to be transferred

to the external information processing means or to be transferred to the data processing means, and enables the system apparatus and the IC card to exchange electronic money information through the communication line.

30 13. An electronic money information transaction system comprising:

an IC card storing electronic money information;

a terminal unit for writing electronic money

5 information into and reading electronic money information from the IC card;

an external information processor for processing data provided by the terminal unit;

10 a data modulating-demodulating means having a first connection terminal connected to the communication line; and

a system apparatus connected to one side through the communication line;

15 said terminal unit having a data processing means for processing electronic money information read from or to be written into the IC card, and a switching means for selectively connecting a second connection terminal of the modulating-demodulating means to the data processing means or the external information processing means,

20 characterized in that said terminal unit comprises a data processing means for processing electronic money

information read from or to be written into the IC card; an information processing means connected to the data processing means; a switching means for switchingly selecting the information processing means or the external information processing means; a data modulating-demodulating means having a first connection terminal connected to the communication line, and a second terminal connected to the switching means, and capable of being selectively connected to the data processing means or the external information processor by the switching means; and a data monitoring means for monitoring the output of the data modulating-demodulating means when the data modulating-demodulating means is connected to the external information processor;

wherein the information processing means controls operations for writing an information signal indicating the electronic money information into or reading the same from the IC card through the data processing means, the switching means and the data modulating-demodulating means, and a signal instructing the switching means to execute switching control is transmitted at least once by the communication line.

14. The electronic money information transaction system according to claim 13, wherein the a control means is connected to the data processing means, and

the control means is capable of controlling the  
5 switching means through the data processing means and the  
information processing means.

15. The electronic money information transaction system according to claim 14, wherein the data processing means and the information processing means are disposed with a space formed therebetween, and the information signal is transmitted across the space.  
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16. The electronic money information transaction system according to claim 15, wherein the information signal to be transmitted across the space is a control signal for switching the switching means at least once.

17. The electronic money information transaction system according to claim 15, wherein the information signal to be transmitted across the space is a control signal for controlling at least the data modulating-demodulating means.  
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18. The electronic money information transaction system according to claim 15, wherein the information signal to be transmitted across the space is a signal for communicating at least the results of operations carried out by the data modulating-demodulating means to the control means.  
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19. The electronic money information transaction system according to claim 15, wherein the information

signal to be transmitted across the space includes at least the electronic money information read from the IC card.

20. A terminal device for use in an electronic money information transaction system comprising:

an IC card storing electronic money information;

a terminal unit for writing electronic money

5 information into and reading electronic money information from the IC card;

a data modulating-demodulating means having a first connection terminal connected to a communication line connected to an external system apparatus;

10 a data processing means for processing electronic money information read from or to be written into the IC card; and

15 a switching means for selectively connecting a second connection terminal of the modulating-demodulating means to the data processing means or an external information processing means;

characterized by comprising a data processing means for processing electronic money information read from or to be written into the IC card; an information processing means connected to the data processing means; a switching means for switchingly selecting the information processing means or an external information processing means; a data modulating-demodulating means having a first connection

terminal connected to a communication line, and a second  
25 terminal connected to the switching means, and capable of  
being selectively connected to the data processing means or  
the external information processor by the switching means;  
and a data monitoring means for monitoring the output of  
the data modulating-demodulating means when the data  
30 modulating-demodulating means is connected to the external  
information processor;

wherein the information processing means controls  
operations for writing an information signal indicating the  
electronic money information into or reading the same from  
35 the IC card through the data processing means, the  
switching means and the data modulating-demodulating means,  
and the information processing means controls the switching  
means on the basis of result of a monitoring operation of  
the data monitoring means.

21. An electronic money information transacting  
method to be carried by an electronic money information  
transaction system comprising:

an IC card storing electronic money information;  
5 a terminal unit for writing electronic money  
information into and reading electronic money information  
from the IC card;  
a data modulating-demodulating means having a first  
connection terminal connected to a communication line

connected to an external system apparatus;  
10 a data processing means for processing electronic  
money information read from or to be written into the IC  
card; and  
15 a switching means for selectively connecting a  
second connection terminal of the modulating-demodulating  
means to the data processing means or an external  
information processing means;  
characterized in that said terminal unit comprises  
20 a data processing means for processing electronic money  
information read from or to be written into the IC card; an  
information processing means connected to the data  
processing means; a switching means for switchingly  
selecting the information processing means or an external  
information processing means; a data modulating-  
25 demodulating means having a first connection terminal  
connected to the communication line, and a second terminal  
connected to the switching means, and capable of being  
selectively connected to the data processing means or the  
external information processor by the switching means; and  
30 a data monitoring means for monitoring the output of the  
data modulating-demodulating means when the data  
modulating-demodulating means is connected to the external  
information processor; wherein the information processing  
means controls operations for writing an information signal

35 indicating the electronic money information into or reading  
the same from the IC card through the data processing means,  
and a signal instructing the switching control of the  
switching means is transmitted at least once by the  
communication line, and the electronic money information  
40 transacting method has the step of making a decision  
according to at least an instruction provided by the  
control means as to whether electronic information applied  
to the second terminal of the data modulating-demodulating  
means is to be transferred to the external information  
45 processor or to be transferred to the data processing means,  
and enables the system apparatus and the IC card exchange  
electronic money information through the communication line.

22. The electronic money information transacting  
method according to claim 21, wherein the data monitoring  
means receives and deciphers an output signal of the data  
modulating-demodulating means, and is a step of deciding  
5 whether electronic information provided on the terminal of  
the data modulating-demodulating means is to be transferred  
to the external information processor or to be transferred  
to the data processing means.

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